REMARKS

The application has been amended and is believed to be in condition for allowance.

Amendments to the Disclosure

Claims 9-14 and 17-23 are canceled without prejudice; Applicants respectfully reserve the right to re-introduce the claims in a future action or continuing/divisional to the instant application.

Claim 15 is amended to more clearly recite the features of the claimed invention. The amendments to claim 15 find support in the specification and the drawing figure as originally filed, as indicated in detail below, and do not introduce new matter.

Formal Matters – Section 112, first paragraph

The Official Action rejected claims 9-23 under 35 USC 112, first paragraph as not being enabled. The drawings were objected to for not illustrating all the recited features.

As an initial matter, section 112, first paragraph instructs applications to draft the specification in a "concise" manner as to enable any person skilled in the art to make and use the invention. This means that components that are well-known in the art should be referred to in a concise manner, thereby avoiding unnecessary discussion of well-known components. It is

respectfully submitted that the specification is filed in consideration of this instruction.

Further responsive to the Official Action's rejection, it is respectfully submitted that claims 15-16 are fully enabled by the specification as filed as required by 35 USC 112, first paragraph, for at least the following reasons, wherein citations to the specification reference the specification as published (US Pub. 20070027588):

I.

Claim 15 recites means 3 for acquiring parameters relating to the aircraft and to the environment outside the aircraft. Such means were disclosed as being within the skill of the art, e.g., specification paragraphs [0012] (emphasis added):

> U.S. Pat. No. 6,421,603 (Pratt et al.) describes a method of evaluating the risks of interference between an intended flight plan and obstacles, in which the flight plan is defined in the form of a coarse trajectory made up of a sequence of segments having parameters defining their extent in three dimensions (horizontally and vertically); a route generator converts those segments and parameters into parallelepipeds or polygons in order to constitute a route model; stationary obstacles are represented in the form of terrain rectangles given altitudes and subdivisions, while moving obstacles are modeled by means of segments, in a manner similar to the flight plan. Interference is detected by comparing the respective models for the itinerary and the obstacles; an alarm is triggered when interference is detected.

See also the disclosure concerning i) US patent No. 6,424,889 (Bonhoure et al.) describing a method of generating a horizontal trajectory for avoiding zones that are dangerous for an aircraft, that method comprising determining circles..., determining tangents to the circles..., selecting pairs of tangents that define a skeleton trajectory, and determining a coarse trajectory comprising circles interconnecting the tangents (e.g., paragraph [0014]), and ii) US patent No. 5,555,175 and French patent No. 2 712 251 (D'Orso) describing a method of providing assistance in piloting an aircraft in which obstacles are detected ahead of the aircraft, those obstacles having summits that are closest to a vertical avoidance trajectory are selected, and as a function of the selected obstacles, a piloting curve is calculated that is presented to the pilot to provide assistance in avoiding the detected obstacles (e.g., paragraph [0015]).

In the prior art, the information is obtained from external sources, e.g., radio navigation means and air navigation radars (see, e.g., paragraph [0010]).

In contrast, the invention requires that the parameters be acquired by components located on the aircraft. This is disclosed at least at paragraph [0070]-[0078] which provides that the recited means 3 for acquiring parameters may be constituted in particular by sensors, air speed and pressure units, inertial navigation units, or a satellite positioning system.

In view of this disclosure and also the skill of the art, Applicants believe that this recitation is enabled within the meaning of section 112, first paragraph in that one of skill in the art would be able to make and use means for acquiring parameters relating to the aircraft and to the environment outside the aircraft, as recited in claim 15. Additionally, this element is illustrated by the sole application figure.

II.

Claim 15 next recites a display means 6.

This element is illustrated by the sole application figure.

Further, specification paragraphs [0054] and [0075] disclose that the display means may be a screen, a head-up display or the equivalent, together with the necessary interface. The interface to the remaining portion of the invention is illustrated by arrows in the application drawing figure. Specification page 8 discloses the display means may be a display screen.

In view of this disclosure, and the skill of the art, applicant believes that this recitation is enabled within the meaning of section 112, first paragraph in that one of skill in the art would be able to make and use this recited element.

III.

Claim 15 further recites a navigation calculator 8 including an interference calculator 2 associated with a memory 4

for storing a constructed route and with a memory 5 containing a model of a terrain to be overflown. The navigation calculator, as well as its components, are illustrated generically in the application figure.

Navigation calculators are known in the art, e.g., see the paragraph spanning paragraphs [0012]-[0015] with respect to US patent No. 5,555,175 and French patent No. 2 712 251 (D'Orso).

The inventive navigation calculator is recited to a) construct a route for the aircraft, including at least initial route segments, b) cause the aircraft to follow the route, c) at least in part while following the route, calculate interference between the route, a model of a terrain overflown by the aircraft, and parameters relating to the aircraft and to the environment outside the aircraft, and d) from said interference, determine a safe route and communicating the safe route via a display screen.

This recitation of the claim finds support at least at paragraphs [0070-[0079], and paragraphs [0090]-[0095] of the published specification.

IV.

Claim 15 further recites that in order for the aircraft to fly in all weathers and at any location, while the aircraft follows the initial route segments, and independently of any instrument flight infrastructure, the apparatus calculates the interference on board the aircraft by acquiring the parameters

relating to the to the aircraft and to the environment outside the aircraft by acquiring parameters relating to the terrain overflown, and automatically performing the following operations:

α) using the acquired parameters relating to the to the aircraft and to the environment outside the aircraft, and the acquired parameters relating to the terrain overflown to verify the safety of an actual trajectory of the aircraft,

β) using the acquired parameters relating to the to the aircraft and to the environment outside the aircraft to verify the safety of the the actual trajectory relative to any other aircraft, and

γ) providing, on board the aircraft, assistance in perception by presenting the interference, the parameters relating to the aircraft and to the environment outside the aircraft, and the parameters relating to the terrain overflown.

These steps are also supported in paragraphs [0070-[0079], and paragraphs [0090]-[0095] of the published specification.

V.

Claim 15 further recites that the apparatus 1 further includes at least one interactive graphics route-construction tool 7 coupled to the interference calculator 2 that serves, when actuated by an operator, to display a result on the display means 6 enabling the safe route to be constructed progressively, which the route is being stored in the first memory 4, and a piloting

system 9 connected to the interactive tool 7 and to the calculator 8 via a connection 10, the piloting system 9 including a piloting screen.

This recitation finds support at least in paragraphs [0081]-[0090] of the published specification.

VI.

Based at least on the foregoing, it is respectfully submitted that each of the features recited by the independent claim 15 are supported and enabled in the specification as originally filed in the application.

VII.

Claim 16 recites at least one means (12) for providing assistance in perceiving the environment outside the aircraft.

This recitation of the claim finds support at least at paragraphs [0060] of the published specification, and further disclosed in paragraph [0101] as implemented by systems described below forming part of set 12, further described at paragraphs [0095]-[0098] and [0104]-[0106].

Accordingly, it is respectfully submitted that each of the features recited by the independent claim 15 are supported and enabled in the specification as originally filed in the application.

Conclusion

Withdrawal of the rejection under section 112, first paragraph and the drawing objection is thereby respectfully requested.

From the foregoing, it will be apparent that Applicants have fully responded to the pending Official Action and that the claims as presented are patentable. In view of this, Applicants respectfully request reconsideration of the claims, as presented, and their early passage to issue.

In order to expedite the prosecution of this case, it is requested that the Examiner telephone the attorney for Applicants at the number set forth below if the Examiner is of the opinion that further discussion of this case would be helpful.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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